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EXTENDING THE STUDY OF LEARNING ENVIRONMENTS: CONNECTING THE FIELD TO OTHER LITERATURES

Bob L Johnson Jr

The study of learning environments in educational organisations has a short but impressive history. A review of this literature reveals that considerable progress has been made in the investigation of this phenomenon. Yet in spite of these advances, momentum in the field has diminished in recent years. A mild group think has emerged. This state of affairs presents the research community with a collective puzzle. What to do next? How might the field be reinvigorated? The purpose of this paper is to offer one possible strategy for redirecting and re-energising learning environments research. It is argued that the time has come to aggressively link the study of learning environments with other bodies of related yet independent research. Using the school-classroom learning environment relationship as the focus of discussion, the author demonstrates how the organisational theory literature can assist in the explication of this underexplored relationship. In doing this, two related yet independent lines of inquiry — organisational theory and learning environments — are brought together.

Raising children is a challenging task. To be effective one must have the ability to recognise, encourage and nurture the cognitive, physical and emotional development that typifies the move from infancy to adolescence. While children vary in the rate of progression, there are indicators which allow one to gauge this development. Operationalised in terms of behaviours, abilities and attitudes, these indicators are rooted in common parental experiences. They allow us to make

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comparative judgements regarding the maturity of a given child. For example, before children learn to walk, they typically crawl and then stand with assistance. Children walking on their own are considered more physically mature than children who merely crawl. Before children learn to speak in coherent sentences, they make various unintelligible noises and communicate using single words. Children speaking in coherent sentences are considered more verbally developed than children who can only say 'Mummy'. The existence of these and other criteria allow us to assess the developmental progress of children.

Building on the logic of this common experience, the development and theoretical maturity of a field of study can likewise be assessed using a variety of criteria (Dumont & Wilson 1963, Johnson in press). These can be stated as questions. First, is there a definite phenomenon of interest? What is it that constitutes the primary focus of inquiry? Has it been defined and described with a reasonable level of clarity? Second, has a defining set of concepts emerged to describe this phenomenon? What is the quality of these concepts? Are these concepts empirically grounded and adequately defined? Third, have operational measures been developed to assess the presence or absence of these defining concepts? What level of validity exists between concepts and operations? Fourth, have explanatory schemes relating these concepts been developed to describe, predict and explain the phenomenon of interest? Have theories been developed to explain the phenomenon? How explicit are these theories? Have they been formally articulated? To what extent have they been systematically tested in a variety of settings and refined? Fifth, how extensively has this line of inquiry been related to other literatures and phenomena of study? Have attempts been made to integrate and contextualise the field with other related and larger lines of inquiry? While differences exist among researchers as to the priority given to them, criteria such as these provide a legitimate means of assessing the theoretical maturity of a field of study. These are summarised and captured visually as Figure 1.

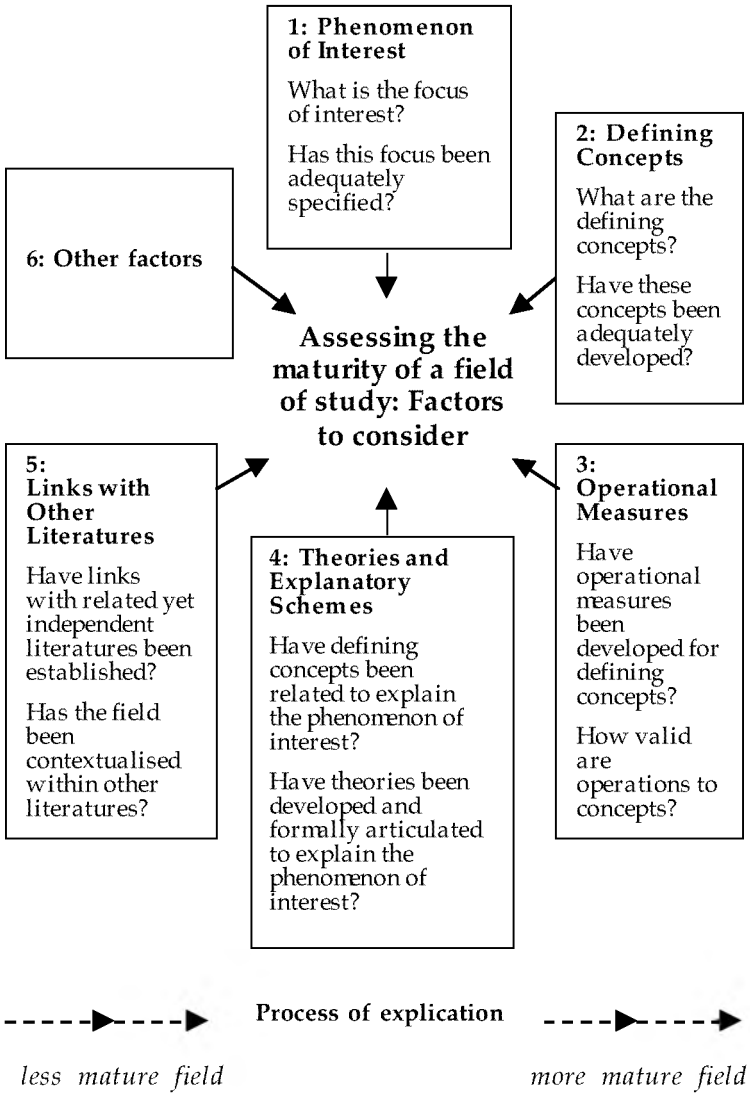

Figure 1: The maturity of a field of study

Using these criteria, judgments can be made about the maturity and development of that body of research known as the study

of learning environments. As a line of inquiry, the study of learning environments (SLE) has an impressive history. Its theoretical, conceptual and operational roots can be traced to the work of Lewin (1935, 1936), Murray (1938), Moos (1979), Trickett and Moos, (1973), Walberg (1979), Fraser (1986), Fraser, Anderson, and Walberg (1982), Fraser (1994) and Ellett and Walberg (1979). The last three decades have witnessed an explosion of research in this area. Considerable progress has been made in the conceptualisation, investigation and measurement of psychosocial dimensions of learning environments in various settings. One indicator of this progress is the creation and growth of the SLE special interest group within the American Educational Research Association (AERA). This group represents one of the more active and international special interest groups in AERA.

Yet in spite of these advances, the momentum of SLE research appears to have diminished in recent years. There is a sense that the field is need of an infusion of new ideas, energy and direction. A mild group think and conceptual staleness have emerged. In noting this, it should not be implied the field has reached an impasse. Rather it is as if the veins that have been mined are near depletion and that newer, unknown veins of the larger mother lode need to be found. This search presents a collective puzzle to those working the field. What to do next? Where to turn? How might the field be reinvigorated?

PURPOSE AND LIMITATIONS OF PAPER

In the context of these issues, the purpose of this paper is offer one possible strategy for re-directing and re-energising research in the SLE field. It will be argued that the time has come to aggressively link or bridge SLE with other bodies of related yet independent research. Just as streams and rivers function to refresh an otherwise stagnant lake, so the in-flow of concepts and frameworks from hitherto independent bodies of research can enrich and inform the study of learning environments. Using the school-classroom learning environment relationship as the focus of discussion (an important but under-explored relationship in the SLE literature), the author will demonstrate how incorporating the literature on the organisational sociology of schools can assist in the explication of this relationship. In

doing this, two related yet independent lines of inquiry — organisational theory and learning environments — are brought together.

The analysis which follows is not without its limitations. Foremost are the biases and cognitive limitations of the author. The reader should note that the author has an active interest in the study of schools as formal organisations and sees it as an important area ignored by many in the education field. Given that the teaching-learning act occurs in an organisational context, this oversight is somewhat surprising. The author's long and inconsistent history with the SLE research community should also be noted. My interest and engagement in other lines of inquiry have resulted in a coming-and-going with the SLE field. This perspective has both a positive and negative effect on the analysis which follows. From a negative standpoint, the lack of consistent engagement with SLE scholars may mean that the finer nuances of the debates/issues facing the field are overlooked. From a positive standpoint, this lack of engagement means that the author can bring fresh — though not altogether unfamiliar — eyes to the field.

The intention here is a modest one. As an exercise in public thinking, it is hoped that the strategy presented will provoke thought regarding the use of other theoretical/conceptual strategies for re-energising an otherwise rich field of study. Before moving to an examination the school-classroom relationship, a brief summary of the author's assessment of the maturity of the SLE field is offered. This will be done by returning to the criteria outlined above. The intent is to provide a 'fresh-eyes' assessment of the field's theoretical and conceptual maturity and a context for the ideas which follow.

ASSESSING THE MATURITY OF THE SLE FIELD

Two principles provide a framework from which judgments regarding the maturity of the SLE field can be made. These stand behind the criteria outlined above. Both are rooted in the logic of social science research. The first principle rests on the need to move from incipient, implicit descriptions of phenomena to more explicit, systematic, formalised descriptions. This means *explicating the implicit* (Dumont & Wilson 1963). The implicit-explicit relation may be

conceptualised as a continuum. Fields of study mature as researchers explicate and formally articulate the field. (This movement is depicted at the bottom of Figure 1). The second principle focuses on the specific logic and procedures used in this explication process, that is, the need

- to identify with clarity the focus of study
- to develop valid descriptions of the phenomenon of interest using empirically grounded concepts
- to operationalise these concepts with reasonable levels of validity
- to test the validity of these explanatory schemes through the careful operationalisation of concepts
- to revise and refine working concepts, operations and theories accordingly.

(see Dewey 1933, Iannaccone 1975, LeCompte & Preissle 1993, Reynolds 1971, Strauss & Corbin 1990, Weick 1989, Willower 1963, Zetterberg 1963).

Against this backdrop, several observations on the maturity level of the SLE field can be made. First, the SLE literature appears to focus on an identifiable and relevant phenomenon of study. Though SLE researchers vary in their specific interests, there is an implicit consensus as to the integrating focus of the field. Whether examined as a dependent or independent variable, learning environments within education organisations are that defining focus. Second, while numerous operational definitions can be found (Fisher & Fraser 1983, Fraser, Anderson & Walberg 1982, Freiberg 1999, Moos & Trickett 1987, Rentoul & Fraser 1979) there are few, if any, explicit conceptual definitions of school or classroom learning environment. This is puzzling, particularly in light of the quality of work in the field.

To be sure, the conceptual influences of Moos (1974, 1979) — human environments — and Murray (1938) — needs-press theory — are evident. Yet an implicit rather than an explicit working definition of learning environments is assumed. To get at this, one must reconstruct definitions from existing operational measures. Examining these, one sees that learning environment is defined in terms of ecology, milieu, affect, perceptions, structure and culture.

The absence of an explicit conceptual definition of learning environments leads to a third developmental issue: assessing

the validity between the conceptual and operational definitions. In the absence of an explicit conceptual definition of learning environments, attempts to assess the critical validity-link between concept and operation are problematic. Again, given the operational richness found in the field, this is cause for concern. These conditions highlight the need for SLE researchers to 1) move toward the articulation of a refined conceptual definition of school and classroom learning environments; and 2) seek tighter links between conceptual and operational definitions. The field's ability to address the second need rests on its effectiveness in addressing the former need.

A fourth indicator of maturity is found in the extent to which the defining concepts in the SLE field have been systematically related to other concepts. The identification and exploration of these relationships are critical to research progress. Our collective understanding of learning environments expands as these relationships are established. SLE researchers have related learning environments to a variety of school-, classroom- and personal-level variables (Fraser & Walberg 1991). Using learning environment dimensions as dependent variables, predictor variables such as the following have been examined: specific curriculum types, (for example, Harvard Project Physics, a Fijian social science curriculum); specific instructional interventions (for example, stress-reduction program for students), school-level variables (for example, type of school, school size), classroom-level variables (for example, class size) and teacher-related variables (for example, gender), instructional techniques and student variables (Fraser, 1986).

Likewise, the predictive effects of learning environments have been explored with the following dependent variables: classroom robustness and a wide variety of student-related variables (for example, achievement, learning skills, attitudes, dispositions, popularity). Creating a visual model of the relationships shared between the learning environment of the classroom and these variables (that is creating what amounts to an analytical as opposed to a statistical meta-analysis) reveals once again the richness of the field. As with other areas of study, the full explication of these relationships represents an ongoing need.

This need for explication leads to a fifth indicator of maturity: the extent to which a given line of inquiry has been linked to related yet independent literatures. Is the field a conceptual island or has it been juxtaposed and contextualised within other literatures? It would appear that a stifling inward-focus has emerged within the learning environments community. There is a need for greater cross-pollenisation with other lines of inquiry. The introduction of constructivist frameworks to the study of learning environments (Fraser & Tobin 1989, Taylor, Fraser & Fisher 1997, von Glasersfeld 1988, 1981) provides a useful example of how other literatures can reinvigorate the field. While many researchers question the validity of conceptualising learning environments as pure idiosyncratic constructions, the introduction of this literature has provoked healthy discussions among SLE scholars. More of this literature bridging is needed.

Returning to the field after an extended hiatus, the author is confounded by the fact that stronger connections have not been made between the learning environments and school leadership, school improvement and organisational theory literatures. If educational organisations are about teaching and learning, and if classroom and school level learning environments provide the context for these core organisational tasks, then why are the bridges between these literatures weak or non-existent? Importing frameworks and concepts from other avenues of inquiry represents an effective strategy for reanimating and expanding the horizons of a field.

BRIDGING THE LEARNING ENVIRONMENTS AND ORGANISATIONAL THEORY LITERATURES

Organisational theory

A useful example of how related yet independent fields of inquiry can inform the study of learning environments is found in the organisational literature on schools. As a subfield of sociology, organisational theory is concerned with the systematic study of formal organisations (Hall 2002, Mintzberg 1979, Morgan 1986, Pfeffer & Salancik 1978, Scott 2000). A review of this literature reveals that all organisations share a common set of generic features: a defining core task, structure,

culture, division of labour and a sense of purpose (however vague). Likewise, all exhibit internal conflict, wrestle with change, interact with the environment, and struggle with attempts to maximise effectiveness and efficiency. These and other features define the essence of formal organisations.

This literature also reveals differences among organisations on a number of dimensions. Chief among these are differences in function and type (Parsons 1960). For example, organisations can be distinguished on the basis of the defining object of work. Is the object of work human or non-human, animate or inanimate? Work at a Toyota plant focuses on the transformation of raw, inanimate materials into automobiles. This contrasts sharply with that organisation known as Oak Ridge High School. Here the transformation of students is the focus of work. Organisations whose efforts are directed at transforming people are defined as *human-service organisations* (Hasenfeld 1983, Scott 2000). Social service agencies, hospitals and educational organisations are distinct from other types of organisations in that they perform a human-service function. They exist to change people. As a specific kind of human-service organisation, educational organisations are similar to, but distinct from, other types of organisations. Though far from exhaustive, the literature on school organisations is substantial (Bidwell 1965, Lortie 1975, Weick 1976, Willower 1982, 1986). Concepts such as *loose coupling* (Weick), the *cellular structure of schools* (Bidwell), *teacher autonomy* (Lortie), *teaching as an ill-defined task* (Cohen, March & Olsen 1972, Johnson 1997, Rowan 1990) and *public vulnerability* (Johnson & Fauske 2000, Willower 1985) are among its more notable contributions.

LEARNING ENVIRONMENTS AND ORGANISATIONAL THEORY

Given that classrooms are sub-units within the larger school, it logically follows that discussions of the individual classroom be framed within an organisational context. Though the amount of SLE research in this area is growing, only a small number of studies have investigated the link between school- and classroom-level learning environments (Creemers & Reezigt 1999, Dorman, Fraser & McRobbie 1997, Fisher, Fraser & Wubbels 1993, Fisher, Grady & Fraser 1995, Fraser & Rentoul 1982). This is due in part to the tendency within the SLE

community to define these environments as distinct constructs (Fraser 1994), a distinction supported by SLE research. Statistical evidence suggests that the relationship between school and classroom learning environments is at best weak and indirect, if not insignificant (Dorman, Fraser & McRobbie 1997).

The cumulative effect of this evidence has been to redirect research in the field. Rather than explicating the school-classroom relationship further, SLE researchers have been content to mine what would appear to be other, more promising learning environment veins. This response is both reactive and premature. A review of research focusing on the school-classroom relationship reveals that SLE scholars have, for all intents and purposes, provided little clarity on this important relationship. Perhaps this reticence is indicative of the propensity within the research community to pursue statistically significant as opposed to non or less significant relationships.

Three additional reasons may explain this state of affairs. First, the SLE community has attempted to make sense of this relationship using concepts and frameworks indigenous to the learning environments literature. It may be that the analytic and operational tools that have come to define the field lack the *requisite complexity* needed to accurately gauge and explain this relationship (Weick 1978). These tools may in fact be inadequate for understanding the school-classroom relationship. How can one measure something for which no or inadequate measures exist? How can one measure something which is not recognised as a variable?

Second, as if to excuse further exploration of this relationship, some have established artificial boundaries between lines of inquiry by noting that larger school concerns fall outside of the learning environments domain. School-level environments fall within the purview of the school leadership literature and therefore it is plausible that it has a distinct and independent literature. But this leadership literature seems to be only of secondary concern to the SLE community. Given that the organisation provides the context for the individual classroom, this response is both narrow and counter-productive.

Third, for those handful of researchers who have made use of organisational theory to explore the relationship between school and classroom learning environments, this literature and the concepts associated with it might not have been fully embraced. For example, concepts such as teacher autonomy (Fisher, Grady & Fraser 1995) and schools as loosely-coupled systems (Dorman, Fraser & McRobbie 1997, Weick 1976) when used in learning environment research need further elaboration. Their use as explanatory tools can become divorced from the organisational literature in which they are located. Much conceptual and contextual richness can be gained if organisational theory is fully integrated into studies of learning environment.

These arguments beg the larger issue of how to squarely address the relationship between school and classroom learning environments. As noted above, one possible strategy is to make greater use of the literature on school organisations. The analysis which follows seeks to bridge SLE with this school organisational literature. While several concepts from this literature are useful in explicating the school-classroom relationship, only three areas will be examined here:

- the defining core tasks of the school organisation, task clarity and organisational structure
- the dual challenges of the classroom teacher
- teacher autonomy and its relationship with organisational structure.

These concepts provide a means by which the school-classroom relationship can be further explicated.

Defining core task, task clarity and organisational structure

A useful place to begin an examination of the school-classroom relationship is with a description of the defining task of the school organisation and the requisite organisational structure associated with it. Organisations may be distinguished by the *core task* which defines them. For example, the defining task for General Motors is automobile production. The defining task for McDonalds is fast-food preparation. The defining task of school organisations is teaching-learning. In describing the defining core task in schools as *teaching-learning*, the author is

fully aware of the debates and issues this designation evokes. While many tasks can be found in these organisations (for example, managing, counselling, coaching, selling), it is the core task that defines each organisation. Schools are defined by the teaching and learning which occur in them. These tasks give the school its identity.

Organisations vary in the level of clarity which surrounds this defining task. The level of task clarity surrounding the preparation of fast food at McDonalds — the degree to which inputs are certain and the extent to which the means of transforming these inputs into outputs are known and predictable — is much higher than the task clarity which surrounds teaching-learning (Perrow 1967, Rowan 1990). At McDonalds there is — more or less — one best method for making hamburgers. This method has been standardised across franchises. By contrast, there is no one-best method of teaching. An instructional approach which works with one student may not work with another. What worked with last year's class of Algebra I students may not work with this year's class. The task clarity of teaching-learning is much lower than that associated with fast-food preparation.

The importance of the task-clarity variable is found in the relationship it shares with organisational structure. If structure is defined in terms of the centralisation, coordination and control mechanisms found in organisations (Hall 2002, Mintzberg 1979, Scott 2000), then task clarity and structure share a positive relationship. Tasks that are lower in clarity lend themselves to looser, more organic (Burns & Stalker 1961) and decentralised organisational structures. Tasks which exhibit higher levels of clarity lend themselves to tighter, mechanistic, more centralised structures.

Returning to the example above, the task clarity associated with fast-food preparation is high. There are few, if any unknowns. By contrast, the task clarity associated with teaching-learning is lower because more uncertainties are present (for example, varying abilities of students and teachers, varying attitudinal, emotional and dispositional states across students, prior student experiences). As a result, one would expect to find contrasting structural configurations in these organisations. Whereas a more centralised, bureaucratic structure is found at McDonalds, a more decentralised

organisational structure is typically found in schools. The decentralised structure which typifies school organisations provides teachers with the autonomy and flexibility needed to adapt and adjust to the uncertainties of teaching. The structural relationship between classrooms and the larger school has been described as loosely-coupled (Bidwell 1965, Meyer & Rowan 1977, 1978, Weick 1976). This looseness represents a structural response to the ambiguities of the teaching-learning task.

Understanding the task clarity-organisational structure relationship as elaborated in the organisational theory literature is critical to understanding the school-classroom learning environment relationship. The uncertainties of teaching call for a decentralised structure which allows for teacher flexibility and autonomy. Yet to what specific end is this autonomy needed? School organisation literature identifies two fundamental challenges that the teacher must address.

The dual challenges of the classroom teacher

Waller (1932) was among the first to formally articulate the fundamental challenges of teaching. Others have since elaborated on these ideas (Jackson 1990, 1986). Whereas the first challenge focuses on the creation and maintenance of an orderly learning environment, the second challenge is about motivating students to learn. Both challenges are mutually reinforcing. Each contributes to the quality of learning environments found in classrooms. Both also highlight a defining tension in schools.

As with other human service organisations, the relationship between the organisation and its clients is of utmost importance in schools (Hasenfeld 1983). For learning to occur, the teacher must create and maintain an orderly classroom environment. The creation of this environment relies heavily on the quality of student-teacher relationships. This relationship is complicated by two factors: 1) attendance for students at schools is mandatory; and 2) the maturity level of students is such that the educational goals, demands and values personified in the school's representatives (that is, administrators and teachers) are often incongruent with student interests and motivations. Simply stated, students are *captive clients* with *immature*

tendencies (Carlson 1964, Muir 1986). Many students attend school against their will and as a result resist efforts to solicit cooperation. These factors make the creation of orderly classroom environments problematic for teachers. To counteract them, teachers must coax, negotiate and occasionally resort to various 'strong arm' tactics with students. Whether an appeal to the authority-status of the teaching role or to the bureaucratic rules of the school, these tactics are impersonal and potentially alienating for students. If used by the teacher in excess, passive student resistance can easily escalate to overt rebellion. However, if used with skill, these tactics can create an environment conducive to learning. The need to establish classroom order is a fundamental challenge which all teachers must address.

The second challenge of teaching follows logically from the first. Teachers must also motivate students to learn. The effectiveness and success of human service organisations rest on the cooperative participation of the clients served. In the context of school organisations, effective learning requires the active participation and cooperation of students. This cooperation requires that the teacher energise and establish affective bonds with the class. Given that teaching is an individualised and interactive activity, motivating students to learn is a function of close, warm relations between teacher and student. To maximise the learning experience, teachers must connect or bond with students.

The irony of these dual challenges is not found in the mutual relationship they share. Rather it is found in paradoxical and countervailing tensions they create, tensions that must be skilfully balanced. Whereas the need to establish classroom order rests on the use of impersonal bureaucratic tactics with students, the need to motivate students rests on the affective, individualistic and personal appeal of the teacher. Reflected in this tension is the juxtaposition of the *personal* and *impersonal*. In dealing with students individually and collectively, the teacher must behave in personal yet impersonal ways. This highlights a basic dilemma in school organisations, particularly at the classroom level: the need to motivate students to learn (that is, the need to solicit student cooperation) while creating an orderly environment in which this learning can occur (that is,

the need to threaten and force compliance as needed while running the risk of undermining student motivation).

The learning environment which exists in a given classroom would appear to be a function of the teacher's ability to effectively balance these countervailing tensions. To be sure, teachers vary in their ability to address these challenges and the subtle nuances associated them. A host of teacher-variables contribute to this variability: the knowledge base a teacher brings to the classroom (both subject-matter and pedagogical knowledge), life experiences, judgment skills, and a repertoire of teaching skills. Ideas regarding the fundamental challenges of teaching and the role they play in the development of classroom learning environments are not framed by SLE researchers in this manner.

Teacher autonomy and organisational structure

The decentralised nature of the school organisation means that teachers enjoy a measure of autonomy in the classroom. As noted above, this autonomy is needed to address the fundamental challenges of teaching. It is a defining norm in the teaching profession (Bidwell 1965, Jackson 1986, 1990, Lortie 1977). Teachers regard classrooms as territory over which they exercise considerable control. It is a jealously guarded domain. Administrative policies and changes which ignore this norm are destined for resistance.

Yet to say that the structural link between the classroom and school is loosely coupled is not to say that it is decoupled (that is, that no link or a single structural link connects the classroom to the school). Some learning environment researchers have tended to equate the two concepts. Classrooms are not decoupled from the larger school, they are coupled with it. Not only are there multiple structural links which connect classroom to school, the number and strength of these links vary across and within schools (Gamoran & Dreeban 1986). Hence, the impact and influence of the larger organisational structure can be found in the classroom. Whether expressed as a prescribed curriculum, a required text, a teacher evaluation system or an end-of-year standardised student-exam, these links place constraints on teacher autonomy. While the uncertainties associated with the teaching-learning task call for a structure

which allows for autonomy, teacher autonomy is not without its limits. It is a *constrained* autonomy (Corwin & Edelfel 1977, Gamoran & Dreeban 1986, Willower 1986). The influence of the larger school structure in the classroom is always felt. Hence, the question is not: Is there a relationship between school and classroom learning environments? The structure, culture, climate and leadership dynamics of the larger school do influence the classroom. Rather, the question is: To what extent is this influence felt in the classroom?

Once again, the literature on school organisations provides insight into this relationship. As noted above, teacher behaviour is defined by attempts to address the fundamental challenges of teaching: maintaining classroom order and motiving students to learn. The learning environment which emerges in the classroom is a function of the teacher's efforts in addressing these countervailing challenges. Not only do these challenges define the teacher's approach to students, they define the teacher's view and interpretation of environmental influences outside the classroom. As such, they function as perceptual filters which assist in identifying and assessing those influences in the school that would facilitate or hinder the ability of teachers to address these challenges in functional ways.

Evidence of this behaviour is seen in most attempts at systemic reform. Teachers tend to assess school-level change along two dimensions: 1) How will it affect my ability to maintain order in my class? (challenge 1); and; 2) What effect will it have on my ability to motivate and teach students (challenge 2)? School-level changes that undermine teachers' abilities to address the challenges of teaching are typically resisted. This resistance explains in part the conservatism exhibited by teachers and the teaching profession. On the other hand, school-level changes that facilitate teachers' abilities to address these challenges are often embraced.

This governing logic can also be seen in the way teachers deal with other school-level influences. As threshold guardians of the classroom (Willower 1982, 1985, 1986), teachers scan the larger school environment for influences that would hinder or facilitate efforts to manage the challenges of teaching. To minimise the effects of hindering influences, teachers employ various *buffering* strategies. These strategies allow teachers to protect the classroom from influences that threaten autonomy

and success. To capitalise on the energy and momentum of facilitating school-level influences, teachers employ strategies that allow them to *bridge* the classroom with the larger organisation. In doing this, the ability of teachers to manage the challenges of teaching is enhanced.

TOWARDS AN UNDERSTANDING THE SCHOOL-CLASSROOM RELATIONSHIP

While the concepts and frameworks described above represent a sampling from the organisational literature, collectively they help illuminate the school-classroom relationship. Their use in this context exemplifies how literature from a related yet independent field can contribute to the conceptual unpacking of this important yet underexamined relationship. With these thoughts in mind, several summary observations are in order.

First, the task clarity of the teaching-learning process is such that a decentralised structure is needed in school organisations. This decentralisation is directed downward to classroom units and is expressed as teacher decisional autonomy. Autonomy is needed for teachers to address the fundamental challenges of teaching. Yet to say that teacher autonomy is needed does not mean that it exists in equal measure across schools. Autonomy is variable both within and across schools over time.

Second, the learning environments which emerge in classrooms are a function of the effectiveness with which teachers manage the countervailing challenges of teaching. While teachers vary in their ability to do this, the autonomy they have to manage these challenges is facilitated or constrained by the level of structural centralisation/decentralisation which defines the school. Teachers in one school may have more autonomy to address the fundamental challenges of teaching than teachers in another school.

Third, the school-classroom relationship tends to become more of an issue for teachers under negative rather than positive conditions. Teachers' awareness of this relationship is heightened when they sense that school-level structures and dynamics are hindering, restraining or conflicting with their work in the classroom. To be sure, effective teachers are adept at taking advantage of or bridging with the facilitating aspects of the larger school environment (that is, school influences that

support teachers' abilities to manage classrooms effectively). Yet teachers are more sensitive to those school-level dynamics that hinder work in the classroom. Stated somewhat differently, individuals tend to become conscious of the air-conditioner when it fails to cool (negative), not when it is cooling properly (positive).

The natural response of teachers to this failure is to buffer the classroom from such influences. The cellular structure of schools and the physical isolation of classrooms allow this to occur. However, buffering has its limits. Classrooms are not decoupled from the larger school organisation. Though physically dispersed, they are not islands within the school. Structural and administrative mechanisms which allow school leaders to control, constrain, coordinate and facilitate teacher work do exist (Gamoran & Dreeban 1986, Logan 1990). The number and relative strength of these mechanisms are important variables across schools. For a given school, this constellation of variables plays an important role in the strength and direction of the school-classroom relationship.

Fourth, teachers vary in their ability to identify and assess school-level structures and dynamics which would hinder or facilitate work in the classroom. This ability has direct consequences for the specific buffering or bridging strategies a given teacher employs (or fails to employ). Teachers also vary in their ability to effectively buffer and bridge school-level influences. For the teacher who is ineffective or unsuccessful at buffering, the school-classroom relationship is perhaps more pronounced in a negative direction. For the teacher who is effective in bridging, the school-classroom relationship is more pronounced in a positive direction. This would suggest that the strength of the school-classroom relationship becomes more pronounced as conditions move toward extreme ends of the continuum: as school and classroom interests become highly incongruent or as school and classroom interests become highly congruent. An extremely incongruent state suggests a negative school-classroom relationship, a congruent state suggests a positive relationship.

As described above, the school-classroom relationship may in fact be facilitated or suppressed by several factors. Other organisational variables could shed light on this relationship. For example, one might consider the role that organisational

culture and socialisation play as internal guides to teacher behaviour. To what extent does school culture function to direct, constrain and define teaching behaviour and the learning environment that emerges in a classroom? Again, these and other organisational concepts provide insight into the school-classroom relationship. Most have yet to be fully explored and utilised by the SLE community.

CONCLUSION

In spite of the temporary ebb in momentum, the SLE field remains a rich and promising line of inquiry. Schools are about teaching and learning. The SLE literature has allowed us to systematically examine these defining organisational tasks in novel ways and in a time when public demands for educational productivity and accountability are on the rise. One of its greatest strengths lies in its international flavour. In contrast to other culture-specific lines of educational inquiry, SLE research has attracted an international group of scholars. Many of its concepts, operations and theories have been examined in multiple countries and cultures. These realisations speak to the field's richness and relevance.

At the same time the field is need of an infusion of new ideas, strategies and thinkers that will assist in reinvigorating and moving the field to a higher level of theoretical maturity. One such strategy has been offered in this paper. The intent has been to show how a related yet independent line of inquiry can be used to complement the work done by the SLE community. The concepts and analytic tools from the literature on school organisations provide an example of how other literatures can be used to conceptually unpack the school-classroom learning environment relationship.

Creativity is an important yet unaddressed skill in the research community. Concerns with the valid and reliable use of the methods and techniques of research often function to discourage and even suppress this creativity. While such things are important to the research process, they can easily become ends in themselves. The state of affairs which currently exists in the SLE community is not atypical to the evolution and development of other lines of inquiry. An infusion of new ideas and strategies is needed. This infusion rests on the collective

creativity of those working in the SLE field. It also rests on our ability to attract new thinkers from other areas of the educational research community to the study of learning environments. It is toward these ends in and in this spirit that these thoughts are offered.

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AUTHOR DETAILS

Bob L. Johnson, Jr. is an Associate Professor, Department of Educational Leadership, University of Utah. He specialises in the study of schools as organisations, the politics of education, the politics of educational change and reform, micro-politics, educational policy analysis, teacher evaluation policy and public choice theory. Address for correspondence: Department of Educational Leadership, University of Utah, Salt Lake City, Utah 94112-9254 USA. Email: bjohnson@ed.utah.edu